

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2003/001585

A. CLASSIFICATION OF SUBJECT MATTER												
Int. Cl. 7: F42B 1/032, 1/036, 3/08, C06B 45/00												
According to International Patent Classification (IPC) or to both national classification and IPC												
B. FIELDS SEARCHED												
Minimum documentation searched (classification system followed by classification symbols)												
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched												
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) DWPI: C06B/IC, Q79/DC with keywords (charge, sheet, flexible)												
C. DOCUMENTS CONSIDERED TO BE RELEVANT												
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.										
P,X	US 2003/0131722 A1 (DONOVAN) 17 July 2003 Whole document	1-20, 47-48										
X	US 6378438 B1 (LUSSIER ET AL.) 30 April 2002 Whole document	1-9, 47										
X	US 4982665 A (SEWELL ET AL) 8 January 1991 Whole document	1-9										
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex												
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention											
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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art											
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family											
"P" document published prior to the international filing date but later than the priority date claimed												
Date of the actual completion of the international search 19 February 2004		Date of mailing of the international search report 25 FEB 2004										
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929		Authorized officer ZBIGNIEW BIELAWSKI Telephone No : (02) 6283 2218										

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C (Continuation): DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4014720 A (WELLS) 29 March 1977 Whole document	1-20, 47-48
X	US 4014719 A (WELLS) 29 March 1977 Whole document	1-20, 47-48
X	US 3185089 A (PARKHURST ET AL.) 25 May 1965 Whole document	1-9, 47
X	GB 2176878 A (ROYAL ORDNANCE PLC) 7 January 1987 Whole document	1-9, 47
X	GB 2148463 A (BROLIN LIMITED (UK)) 30 May 1985 Whole document	1-9, 47
X	FR 2669723 A1 (SOCIETE NATIONALE DES POUDRES ET EXPLOSIFS) 29 May 1992 Whole document	1-20, 47-48

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Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos :
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos :
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos :
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See the extra sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:1-20, 47-48

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box No: II

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are different inventions as follows:

1. Claims 1-20, 47 and 48 are directed to an elongate explosive charge element adapted to and a method for the penetration of a barrier structure and including a flexible frangible cutting sheet. It is considered that said "flexible frangible cutting sheet" comprises a first "special technical feature".
2. Claims 21-46 and 49 are directed to a charge carrier per se and a method of using a charge carrier for the penetration of a barrier. It is considered that said charge carrier comprises a second "special technical feature".
3. Claims 50-65 are directed to a flexible linear charge system comprising elongate elements including a malleable explosive charge element, a liner and a stand-off member enveloped in a flexible elongate inertial mass carapace. It is considered that the underlined features comprises a third "special technical feature"
4. Claims 66-69 are directed to a flexible linear charge element comprising an extruded closed cell carcass having a number of features. It is considered that said extruded closed cell carcass comprises a fourth "special technical feature"
5. Claims 70-72 are directed to a linear charge carrier element comprising a section of a plastic tube to which an explosive sheet material and a backing is affixed. It is considered that said plastic tube comprises a fifth "special technical feature"

Since the abovementioned groups of claims do not share any of the technical features identified, a "technical relationship" between the inventions, as defined in PCT rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept, a priori.

Furthermore the feature common to the claims 1, 10, 21, 32, 47, 48, 49 is a device and method adapted to penetrate a barrier with an explosive. However this common feature is generic in the art (see for example GB 2176878 A and US 6378438 A). Consequently the common feature does not constitute "a special technical feature" within the meaning of PCT Rule 13.2, second sentence, since it makes no contribution over the prior art. Since there exists no other common feature which can be considered as a special technical feature within the meaning of PCT Rule 13.2, second sentence, no technical relationship within the meaning of PCT Rule 13 between the different inventions can be seen. Consequently it appears that a posteriori, the claims do not satisfy the requirement of unity of invention.

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Information on patent family members

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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member			
US	20030131722				
US	6378438				
US	4982665				
US	4014720				
US	4014719				
US	3185089				
GB	2176878	AU	63587/86	CA	1262214
		FR	2590661	JP	63112485
		US	4693181	DE	3338429
				SE	8305694
GB	2148463				
FR	2669723				
END OF ANNEX					